

REMARKS

This is intended as a full and complete response to the Final Office Action dated March 23, 2006, having a shortened statutory period for response set to expire on June 23, 2006. Please reconsider the claims pending in the application for at least the reasons discussed below.

Claims 1-20 remain pending in the application and are shown above. Claims 1-20 are rejected. Reconsideration of the rejected claims is requested for reasons presented below.

Claims 1-20 are rejected under 35 U.S.C. § 103(a) as being unpatentable over *Foo et al.* (U.S. Patent No. 5,124,014). The Examiner notes that *Foo et al.* differs from the present claims in that oxygen is not introduced at a flowrate less than or equal to the flowrate of the cyclic organosiloxane and states that *Foo et al.* prefers a higher flowrate of oxygen. The Examiner asserts that it would have been obvious to use a lower flowrate of oxygen as it is not inventive to discover optimum or workable ranges when the general conditions of a claim are disclosed in the prior art. Applicants respectfully traverse the rejection.

In the Advisory Action mailed on June 7, 2006, the Examiner asserts that the language of *Foo et al.* merely suggests a higher ratio of TMCTS “in order to produce good quality silicon dioxide,” and does not exclude other flow rates. Applicants respectfully submit that *Foo et al.*’s statement that “if TMCTS is used, the oxygen flow rate should be about three times the TMCTS flow rate” (column 4, lines 45-47) considered with the example that includes an oxygen flow rate of 48 sccm and a TMCTS flow rate of 16 sccm (column 5, lines 55-57) teach rather than “merely suggest” using a higher oxygen flow rate than TMCTS flow rate. Regarding the Examiner’s statement that *Foo et al.* does not exclude other flow rates, Applicants respectfully submit that the observation that *Foo et al.* does not explicitly exclude other flow rates is not sufficient to support a finding of a teaching, suggestion, or motivation in *Foo et al.* to use a oxygen flow rate that is less than or equal to a TMCTS flow rate.

The Examiner also asserts that *Foo et al.* discusses optimizing reaction conditions “at any given flow rate” (column 4, lines 58-62). Column 4, lines 58-63 of *Foo et al.* state “at any given flow rate, it is necessary to adjust the microwave power

and rf bias voltage (or rf power) in order to obtain the optimum deposition rate. In general, increasing the microwave power increases the deposition rate, and increasing the rf bias decreases the deposition rate.” Applicants note that the cited lines follow *Foo et al.*’s teaching that if TMCTS is used, the oxygen flow rate should be about three times the TMCTS flow rate, as well as *Foo et al.*’s description of exemplary TMCTS flow rates, e.g., 4 sccm and 16 sccm (column 4, lines 51-53). Applicants respectfully submit that the Examiner is improperly ignoring the context of *Foo et al.*’s statement that “at any given flow rate” it is necessary to adjust various processing conditions and is misrepresenting *Foo et al.*’s statement as a suggestion that any possible flow rate of TMCTS may be used, regardless of the oxygen flow rate. In view of *Foo et al.*’s teaching of using a higher TMCTS flow rate than oxygen flow rate and in the absence of a suggestion in *Foo et al.* to use a TMCTS flow rate that is not higher than the oxygen flow rate, Applicants maintain that *Foo et al.* does not suggest, motivate, or provide a reasonable expectation of success for using a flow rate for oxygen that is lower than a cyclic organosiloxane (TMCTS) flow rate to deposit the silicon oxide films described therein.

Thus, *Foo et al.* does not teach, show, or suggest a process for depositing a low dielectric constant film, comprising reacting a cyclic organosiloxane with oxygen in the presence of RF power in a chamber at a pressure of between about 2.5 Torr and about 10 Torr, wherein the oxygen is introduced into the chamber at a flowrate less than or equal to the flowrate of the cyclic organosiloxane into the chamber, and wherein the low dielectric constant film comprises silicon, oxygen, and carbon, as recited in claim 1. Applicants respectfully request withdrawal of the rejection of claim 1 and of claims 2-6, which depend thereon.

Similarly, *Foo et al.* does not teach, show, or suggest a process for depositing a low dielectric constant film, comprising reacting a cyclic organosiloxane with oxygen in the presence of mixed frequency RF power in a chamber at a pressure of between about 2.5 Torr and about 10 Torr, wherein the oxygen is introduced into the chamber at a flowrate less than or equal to the flowrate of the cyclic organosiloxane into the chamber, and wherein the low dielectric constant film comprises silicon, oxygen, and


carbon, as recited in claim 7. Applicants respectfully request withdrawal of the rejection of claim 7 and of claims 8-14, which depend thereon.

Furthermore, in similar fashion, *Foo et al.* does not teach, show, or suggest a process for depositing a low dielectric constant film, comprising reacting octamethylcyclo-tetrasiloxane with oxygen in the presence of mixed frequency RF power in a chamber at a pressure of between about 2.5 Torr and about 10 Torr, wherein the oxygen is introduced into the chamber at a flowrate less than or equal to the flowrate of the octamethylcyclotetrasiloxane into the chamber, and the oxygen flowrate is less than or equal to about 200 sccm, and wherein the low dielectric constant film comprises silicon, oxygen, and carbon, as recited in claim 15. Applicants respectfully request withdrawal of the rejection of claim 15 and of claims 16-20, which depend thereon.

In conclusion, the references cited by the Examiner, alone or in combination, do not teach, show, or suggest the invention as claimed.

Having addressed all issues set out in the Final Office Action, Applicants respectfully submit that the claims are in condition for allowance and respectfully request that the claims be allowed.

Respectfully submitted,



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